

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 39

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LEONARD FORBES

Appeal No. 2003-1286
Application No. 08/898,187

ON BRIEF

Before WALTZ, LIEBERMAN and PAWLIKOWSKI, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 11 through 39 which are all the claims pending in this application.

THE INVENTION

The invention is directed to a structure comprising a plurality of silicon rows having a specific width dimension embedded in an oxidized substrate and separated by rows of oxide. Additional limitations are described in the following illustrative claim.

THE CLAIM

Claim 11 is illustrative of appellant's invention and is reproduced below.

11. A silicon on insulator structure, comprising:

a plurality of silicon rows, having a width dimension of one micron or less,
embedded in an oxidized substrate; and
a plurality of oxide rows between the silicon rows.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references:

| | | |
|--------|-----------|--------------|
| Soclof | 4,580,331 | Apr. 8, 1986 |
|--------|-----------|--------------|

THE REJECTIONS

Claims 11 through 39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Soclof.

OPINION

We have carefully considered all of the arguments advanced by the appellant and the examiner and agree with the examiner that the rejection of the claims under §103(a) is well founded. Accordingly, we affirm the rejection for the reasons set forth in the Answer and for those discussed herein.

As an initial matter, it is the appellant's position that, "the present appeal claims 11-39 stand or fall together." See Brief, page 2. Accordingly, we select claims 11 as representative of the claimed subject matter and limit our consideration thereto. See 37 CFR §1.192(c)(7) (2002).

The Rejection under § 103(a)

It is the appellant's position that inasmuch as the Office, "has failed to meet the burden of showing from Soclof '331 or any other evidence that, 'the choice of particular size of the active regions to achieve a particular desired device density on the finished wafer would have been within the scope of ordinary skill in the art,' all of the pending claims accordingly ought to be allowed." See Brief, page 6. We disagree with the appellant's conclusion.

Soclof is directed to a transistor wherein a plurality of transistors may be fabricated on a single chip surrounded by field oxide completely isolating it from the substrate. See Abstract and column 1, lines 13-16 and column 2, lines 24-26. The examiner has found that Soclof discloses silicon rows embedded in oxidized silicon substrate. See Answer, page

3. The appellant has not contested the examiner's findings. Indeed, the appellant has principally characterized the Soclof patent by stating that, "[t]he dimensions of silicon active regions produced on the substrate in the cited Soclof patent are not directly stated." See Brief, page 4. Accordingly, we accept the finding by the examiner of rows of silicon embedded in a silicon oxide substrate as fact.

Indeed, as indicated above, the only issue raised by the appellant in the Brief, is directed to the size of the transistor active region. See Brief, pages 4 through 6. In this respect Soclof discloses that, "the active region may be completely contained with the surface of area of $3d \times 5d$ or $15d^2$ wherein d is only a few micrometers or less." See column 2, lines 21-26. We find that Soclof further states that, "[t]he principles of the present invention are compatible with use of the Perkin Elmer Projection Printer equipment for 2 micron dimensions, the 10:1 stepper for 1 micron rated dimensions, and electron beam or X-ray lithography for under 1 micron dimensions." See column 4, lines 13-19. Based upon the above findings, we conclude that Soclof suggests that the silicon rows may have a width dimension of 1 micron or less as required by the claimed subject matter.

In this respect, the inventor has submitted a declaration under 37 CFR § 1.132 purporting to demonstrate that Soclof, "fails to set forth a *prima facie* case of obviousness." See declaration, dated February 13, 2002, paragraph 8, pages 1 and 2. The declarant has stated therein that, "[n]either Socloff '226 or Soclof '331 disclose methods that one skilled in the art at the time of their filing could adapt to x-ray lithography to reduce the

minimum value of “d” below 0.4 microns.” See declaration, paragraph 14. Even was the statement correct in all aspects, the claimed subject matter before us only requires a width dimension of “1 micron or less.”¹ Accordingly, a teaching by the declarant that the minimum value of “d” may not be below 0.4 microns constitutes an admission that the dimension of “d” could be 1 micron or less.

Furthermore, although the statements in the declaration, in part, state that Soclof does not show or disclose a structure wherein the width of the silicon rows is 1 micron or less, paragraphs 18 and 19, these positions only reflect the inventor’s opinion. There is no evidence present in the declaration or in the record before us to support the positions taken by the inventor in the declaration.

Based upon the above reasons and those set forth in the Answer, we have determined that the examiner has established a prima facie case of obviousness. Upon reconsideration of all the evidence and argument submitted by appellant, we have determined from the totality of the record that the preponderance of the evidence weighs in favor of obviousness within the meaning of 35 U.S.C. § 103. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Accordingly, the decision of the examiner is sustained.

¹ We note that the critical date is not the date on which Soclof filed their patent application as stated in the declaration, but the date on which the appellant filed his patent application. Accordingly, the declaration should have shown that at the time of filing this application by the appellant the person having ordinary skill in the art was not able to make a transistor having dimensions within the scope of the claimed subject matter.

DECISION

The rejection of claims 11 through 39 under 35 U.S.C. §103(a) as being unpatentable over Soclof is affirmed.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

THOMAS A. WALTZ
Administrative Patent Judge

PAUL LIEBERMAN
Administrative Patent Judge

BEVERLY A. PAWLIKOWSKI
Administrative Patent Judge

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